IN THE U.S. PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Dominique CONTE et al. Conf. 2394

Application No. 10/535,146 Group 1712

Filed May 16, 2005 Examiner Wieczorek, Michael P.

METHOD FOR OBTAINING A MARK ON A LOW SURFACE ENERGY OPHTHALMIC LENS

APPEAL BRIEF

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(i) Real Party in Interest

The real party in interest in this appeal is the assignee, Essilor International of Charenton-le-Pont, France.

(ii) Related Appeals and Interferences

None.

(iii) Status of Claims

Claims 1-25 are pending. Claims 1 and 25 are independent. Dependent claims 3, 6, 10, 12, 13, 18 and 20 were withdrawn from consideration pursuant to an election of species requirement, but Claim 1 remains generic to the subject matter of those claims. The present appeal is taken from the final rejection of claims 1, 2, 4, 5, 7-9, 11, 14-17, 19 and 21-25.

(iv) Status of Amendments

An amendment filed simultaneously herewith corrects two obvious editorial errors in the independent claim 25. Claim 25 as set forth in the Claims Appendix herein reflects those corrections.

(v) Summary of the Claimed Subject Matter

The invention defined by the independent claim 1 is a method for marking one face of an ophthalmic lens (such as eyeglass lenses). The mark on the lens can for example identify the manufacturer of the lens, its technical characteristics, or be a logo (specification, p. 1, lines 3-7). The lens to which the mark is applied has a low surface energy hydrophobic and/or oleophobic outermost layer on a substrate or a high surface energy coating (p. 1, lines 13-22). A mask (e.g. 12 in Fig. 1) having a configuration complementary to the required mark is positioned between the face 22 of the lens 20 to be marked and an energizing source (e.g., corona discharge device 30 in Fig. 1) adapted to eliminate selectively the outermost layer in order to reveal the substrate or underlying high energy coating (p. 8, lines 4-9). A temporary adhesion enhancing layer (e.g., layer 23 in Fig. 2) is deposited onto the outermost layer, which enhances adhesion of the face of the lens with a lens retaining shoe when trimming the lens (p. 8, lines 9-12).

According to the invention, the temporary adhesion enhancing layer has a surface energy higher than that of the outermost layer and a thickness of less than about 5 nm (p. 8, lines 10-12). It was surprisingly discovered by the present inventors that when the adhesion enhancing layer is formed at a thickness of about 5 nm or less, the layer could be applied before the lens is marked, i.e., the energizing source such as a corona discharge device could effect selective removal of the outermost layer by passing through the adhesion enhancing layer (p. 7, lines 26-34).

The other independent claim 25 finds support in the disclosure in much the same way as does claim 1, e.g.:

Method for marking one face of an ophthalmic lens	(specification, p. 1, lines 3-7)
of the type including a low surface energy hydrophobic and/or oleophobic outermost layer on a substrate or a high surface energy coating	(p. 1, lines 13-22)
wherein a mask	(e.g. 12 in Fig. 1)
having a configuration complementary to the desired mark is positioned between the face of the lens to be marked and an energizing source	(e.g., corona discharge device 30 in Fig. 1)
adapted to eliminate selectively the outermost layer in order to reveal the substrate or underlying high energy coating	(p. 8, lines 4-9)
and wherein there is deposited onto said outermost layer a temporary adhesion enhancing layer	(e.g., layer 23 in Fig. 2),

said adhesion enhancing layer having a surface energy higher than that of the outermost layer and a thickness of less than about 5 nm	(p. 8, lines 10-12),
and removing the adhesion enhancing layer from the ophthalmic lens after the outermost layer has been selectively eliminated from the lens to produce the desired mark and after the ophthalmic lens has been trimmed to the desired contour.	(p. 8, lines 31-34).

(vi) **Grounds of Rejection to be Reviewed on Appeal**

There are two grounds of rejection to be reviewed on appeal, namely:

1) Whether claims 1, 2, 4, 5, 7-9, 11, 14-17, 19, 21 and 25 would have been obvious, within the meaning of 35 USC §103(a), based on Souel (U.S. Patent No. 6,281,468) in view of Medwick (U.S. Published Application No. 2002/0176988) and MacNutt (U.S. Patent No. 2,536,075); and

2) Whether claims 22-24 would have been obvious, within the meaning of 35 USC §103(a), based on Souel in view of Medwick and MacNutt, as applied to claim 1, and further in view of Kimock (U.S. Patent No. 5,190,807).

(vii) Argument

Claims 1, 2, 4, 5, 7-9, 11, 14-17, 19, 21 and 25 would not have been obvious from Souel in view of Medwick and MacNutt

The independent claims 1 and 25 are argued separately as to this ground of rejection.

Souel discloses a method for marking the face of an ophthalmic lens which admittedly lacks the use of a temporary adhesion enhancing layer, much less such a layer having a surface energy higher than the outermost layer and a thickness less than about 5 nm.

The final rejection relies upon Medwick as allegedly disclosing this aspect of the claims on appeal. Medwick discloses removable coatings for large glass panels having functional coatings to protect the substrate from mechanical and/or chemical damage. However, there is no mention in Medwick of a protective coating whose surface energy is higher than the outermost layer of the glass sheet to be protected.

As to thickness of the Medwick coating, the smallest disclosed thickness is "between about 1 micrometer and 2 micrometers" (see ¶44), which is thus 200 to 400 times thicker than the temporary adhesion enhancing layer of the claims on appeal.

MacNutt does not remedy these rather striking shortcomings of Souel and Medwick for reference purposes relative to the claims on appeal, as it is relied upon solely for

allegedly disclosing the "adhesion enhancing" nature of the claimed temporary layer.

Instead, the final rejection relies upon the mention in ¶44 of Medwick that the "exact thickness" of its coating will depend on a number of factors, to conclude that a skilled artisan would have been guided by Medwick to use a coating on the ophthalmic lenses of Souel at a thickness 200 to 400 times less than anything contemplated by Medwick, as a matter of "routine experimentation." *Final rejection at p. 6, lines 3-6.*[1]

Of course, "experimenting" over a range of 2 orders of magnitude is anything but routine, particularly where one reference is directed to making ophthalmic lenses and the other reference deals with protecting large glass sheets (on the order of 4 ft x 6 ft) from damage caused by contacting one another during shipping.

Plainly, therefore, there is nothing in either Souel or Medwick or MacNutt that would have caused the skilled artisan to contemplate the use of a temporary adhesion enhancing layer having a thickness less than about 5 nm.

The position taken in the final rejection does not appear to have been inspired by the MPEP, which directs in §2144.05 that only "result-effective variables" may be optimized,

[1] The final rejection characterizes Medwick as teaching a coating that is preferably "no more than 2 micrometers," which is somewhat selective in that the same passage also teaches that the coating is preferably no less than 1 micrometer.

i.e., a particular parameter must first be recognized as one that achieves a recognized result, before the determination of the optimum or workable ranges of that variable might be characterized as "routine experimentation." *In re Antonie*, 559 F.2d 618 (CCPA 1977).

Moreover, nothing in the applied prior art would have suggested to a skilled artisan to apply a temporary adhesion enhancing layer of whatever thickness to the outermost lens layer before marking the outermost layer, considering that the purpose of the temporary adhesion enhancing layer is to promote the adhesion of the lens to a lens retaining shoe when trimming the lens, a step that is performed after marking the lens. Indeed, the very criticality of the thickness recitation arises from the inventors' unexpected discovery that a temporary adhesion enhancing layer of less than about 5 nm and having a surface energy higher than that of the outermost layer, allows the energizing source used for marking the lens to act on the outermost layer through the temporary adhesion enhancing layer (see the discussion at pp. 7-8 of the present specification).

As to this striking benefit of the claimed method, and the total and admitted failure of the applied prior art to disclose the same, the final rejection states at the bottom of page 6 only that "it would be inherent that the protective coating of Medwick would allow for the discharge to act on the outermost layer through the protective coating."

However, that so-called "inherency" could be achieved only if the coating of Medwick were first modified to be at least 200 times thinner than anything actually disclosed by the reference, and further modified to have an adhesion-enhancing character.

Moreover, and as a matter of law, the rationale that a new, unexpected and beneficial characteristic of an invention can be discounted as being "inherent in the combination" was long ago rejected the CCPA in the case of *In re Adams*, 356 F.2d 998 (CCPA 1966). In that case, where the proposed combination of prior art admittedly would have produced the claimed invention, the late Judge Rich aptly dismissed the "inherent in the combination" argument with the comment "[o]f course it is inherent, otherwise appellant's invention would not work." 356 F.2d at 1001. The relevant question, as the Court went on to explain, is whether the skilled artisan would have reasonably expected to achieve the results attained by the appellant – a question that, in the present case, appellants believe must be answered in the negative.

It is therefore believed to be evident that the rejection of claims 1, 2, 4, 5, 7-9, 11, 14-17, 19, 21 and 25 for obviousness based on Souel in view of Medwick and MacNutt should be reversed.

Claim 25 differs from claim 1 in that claim 25 also recites removing the temporary adhesion enhancing layer from the

ophthalmic lens after the outermost layer has been selectively eliminated from the lens to produce the desired mark and after the ophthalmic lens has been trimmed to the desired contour.

MacNutt, which was relied upon for allegedly teaching an adhesion-enhancing layer, teaches away from this aspect of claim 25, because its layer is not removed after trimming the lens. Instead, MacNutt merely discloses that an MgF_2 coating when faulty can be removed so that the underlying optical element can be used by again applying the same MgF_2 coating.

Claim 25 also differs from claim 1 by affirmatively reciting selectively eliminating the outermost layer through the temporary adhesion enhancing layer by action of the energizing source, and is therefore more explicit as to the temporary adhesion layer being applied to the outermost layer before the marking is performed, which, as discussed above, is nowhere suggested by the applied prior art whether considered singly or in any proper combination.

It is therefore believed that the rejection of claim 25 should be reversed not only for the reasons discussed above in connection with claim 1, but also for these additional reasons.

Claims 22-24 would not have been obvious from Souel in view of Medwick and MacNutt, and further in view of Kimock

Kimock is relied upon solely for its alleged teaching of the additional upstream process steps of claims 22-24,

involving the deposition of mineral and/or organic layers before forming the recited outermost layer.

As such, Kimock provides nothing that would bring the more basic proposed combination of Souel, Medwick and MacNutt closer to the invention as recited in the independent claims 1 and 25. The rejection of claims 22-24 should therefore also be reversed at least by virtue of the dependency of those claims from allowable independent claims.

Conclusion

It is believed that the discussion above shows wherein the two grounds of rejection on appeal are both in error and should be reversed. Such action is accordingly respectfully requested.

The Appeal Brief fee in the amount of $540.00 is being paid online concurrently herewith by credit card.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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(viii) Claims Appendix

1. Method for marking one face of an ophthalmic lens of the type including a low surface energy hydrophobic and/or oleophobic outermost layer on a substrate or a high surface energy coating, wherein a mask having a configuration complementary to the required mark is positioned between the face of the lens to be marked and an energizing source adapted to eliminate selectively the outermost layer in order to reveal the substrate or underlying high energy coating, and wherein there is deposited onto said outermost layer a temporary adhesion enhancing layer for enhancing adhesion of the face of the lens with a lens retaining shoe when trimming the lens, said temporary adhesion enhancing layer having a surface energy higher than that of the outermost layer and a thickness of less than about 5 nm to enable the energizing source to act on the outermost layer through the temporary adhesion enhancing layer.

2. Method according to claim 1, wherein the thickness of the temporary adhesion enhancing layer is from approximately 2 nm to approximately 4 nm.

3. Method according to claim 1 wherein the adhesion enhancing layer is a mineral layer.

4. Method according to claim 1, wherein the adhesion enhancing layer comprises a metal fluoride or a mixture of metal fluorides or a metal oxide or a mixture of metal oxides.

5. Method according to claim 4, wherein the metal fluoride is MgF_2, LaF_2, AlF_3 or CeF_3.

6. Method according to claim 4, wherein the oxide is selected from TiO_2, $Al2O_3$, ZrO_2 and praseodymium oxide and the mixture of alumina and praseodymium oxide.

7. Method according to claim 1, wherein the adhesion enhancing layer is deposited by evaporation.

8. Method according to claim 1, wherein the temporary adhesion enhancing layer is deposited on a region of the face intended to be in contact with the lens retaining when trimming the lens.

9. Method according to claim 1, wherein the adhesion enhancing layer has a substantially continuous structure.

10. Method according to claim 1, wherein the adhesion enhancing layer has a discontinuous structure.

11. Method according to claim 1, wherein the adhesion enhancing layer takes the form of a screen.

12. Method according to claim 1, wherein the temporary adhesion enhancing layer comprises polytetrafluorethylene.

13. Method according to claim 1, wherein the adhesion enhancing layer comprises a marking ink for ophthalmic lenses and/or polymer constituting a marking ink binder.

14. Method according to claim 1, wherein the hydrophobic and/or oleophobic surface coating comprises fluorinated groups.

15. Method according to claim 1, wherein the lens comprises an antireflection coating onto which the hydrophobic and/or oleophobic layer is deposited

16. Method according to claim 15, wherein the hydrophobic and/or oleophobic coating includes a plurality of layers.

18. Method according to claim 1, wherein the temporary adhesion enhancing layer is removed by an acid solution.

19. Method according to claim 1, wherein the temporary adhesion enhancing layer is removed by dry wiping.

20. Method according to claim 1, wherein the temporary adhesion enhancing layer is removed by application of ultrasound.

21. Method according to claim 1, wherein the temporary adhesion enhancing layer is removed and thereafter a cleaning step is carried out using an aqueous solution with a pH substantially equal to 7.

22. Method according to claim 1, wherein the deposition of the hydrophobic and/or oleophobic outermost layer on a first face of the lens is preceded by the deposition of one or more mineral or organics layers, wherein at least one step of treatment by energetic and/or reactive substances capable of attacking and/or chemically modifying the surface of the first face of the lens is effected before the deposition of the mineral or organic layer(s).

23. Method according to claim 22, wherein the lens is turned over to treat its second face by energetic and/or reactive substances before depositing one or more mineral or organic layers and a hydrophobic and/or oleophobic outermost layer.

24. Method according to claim 23, wherein a temporary adhesion enhancing layer is deposited on the hydrophobic and/or oleophobic outermost layer on the second face of the lens.

25. Method for marking one face of an ophthalmic lens of the type including a low surface energy hydrophobic and/or oleophobic outermost layer on a substrate or a high surface energy coating, wherein a mask having a configuration

complementary to the desired mark is positioned between the face of the lens to be marked and an energizing source adapted to eliminate selectively the outermost layer in order to reveal the substrate or underlying high energy coating, and wherein there is deposited onto said outermost layer a temporary adhesion enhancing layer, said adhesion enhancing layer having a surface energy higher than that of the outermost layer and a thickness of less than about 5 nm, selectively eliminating the outermost layer through the temporary adhesion enhancing layer by action of the energizing source, and removing the adhesion enhancing layer from the ophthalmic lens after the outermost layer has been selectively eliminated from the lens to produce the desired mark and after the ophthalmic lens has been trimmed to the desired contour.

(ix) Evidence Appendix

None.

(x) **Related Proceedings Appendix**

None.